

# ABSTRACT OF JP 52062314

L14 ANSWER 3 OF 3 CA COPYRIGHT 2003 ACS on STN  
 AN 87:137639 CA  
 TI Synthetic zeolites for **detergent** builders  
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 Ogawa,  
 Masahide  
 PA Mizusawa Industrial Chemicals, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 22 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC C11D003-08  
 CC 46-6 (Surface Active Agents and Detergents)  
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	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 52062314	A2	19770523	JP 1975-137813	19751118
	JP 55018277	B4	19800517		
PRAI	JP 1975-137813		19751118		

AB **Smectite**-type clay is **treated** with **acid**  
 until the x-ray diffraction peaks from (001) disappear and the Al<sub>2</sub>O<sub>3</sub>:SiO<sub>2</sub>  
 molar ratio reaches 1:11-99, ground to size distributions of >20 wt.%  
 <5.μ. and <30% >20 .μ., Al<sub>2</sub>O<sub>3</sub> and Na<sub>2</sub>O added to satisfy zeolite  
 compns.,

and heated to give zeolites having size distributions of >40% <5 .μ. and  
 <30% >8 .μ., which were useful as **detergent** builders. Thus,  
 76.5 g acidic white clay (SiO<sub>2</sub> 72.1, Al<sub>2</sub>O<sub>3</sub> 14.2, Fe<sub>2</sub>O<sub>3</sub> 3.87, MgO 3.25,

and  
 CaO 1.06%) was treated 10 h with 200 mL of 50% H<sub>2</sub>SO<sub>4</sub> at 90.degree.,  
 washed

with H<sub>2</sub>O, dispersed in H<sub>2</sub>O, beaten 20 min in a blender to give a powder  
 contg. 48.3% <5-μ.-diam and 51.7% 5-20 .μ.-diam. particles having no  
 x-ray defraction from (001). Na aluminate and NaOH were added to a

slurry  
 of the above powder to make the molar ratios of Na<sub>2</sub>O-SiO<sub>2</sub>, SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>,

and  
 H<sub>2</sub>O-Na<sub>2</sub>O 0.9, 2.0, and 50.0, resp., at 20.degree., heated 3 h at  
 95.degree., filtered out, and dried to give a zeolite powder contg. 71

and  
 2% of .ltoreq.5 and .gtoreq.8 .μ.-diam. particles which had excellent  
 rinse.

ST zeolite **detergent** builder; clay zeolite synthesis

IT **Detergents**  
 (builders for, synthetic zeolites as)

IT Zeolites, preparation  
 RL: PREP (Preparation)  
 (manuf. of synthetic, for **detergent** builders)

IT Clays, uses and miscellaneous  
 RL: USES (Uses)  
 (zeolite manufd. from, for **detergent** builders)

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